

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/060,294DATE: 08/06/1999  
TIME: 11:54:14

INPUT SET: S32807.raw

<p>This Raw Listing contains the General Information Section and up to the first 5 pages.</p>
---------------------------------------------------------------------------------------------------

## SEQUENCE LISTING

ENTERED

1  
2  
3 (1) General Information:  
4  
5 (i) APPLICANT: Martin Roland Jensen  
6 Soren Mouritsen  
7 Henrik Elsner  
8 Iben Dalum  
9  
10 (ii) TITLE OF INVENTION: Modified human TNF-alpha molecules, DNA  
11 encoding them, and vaccines containing said modified  
12 TNF-alpha or DNA  
13  
14 (iii) NUMBER OF SEQUENCES: 42  
15  
16 (iv) CORRESPONDENCE ADDRESS:  
17 (A) ADDRESSEE: Farmaceutisk Laboratorium Ferring A/S  
18 (B) STREET: Indertoften 10  
19 (C) CITY: Vanløse  
20 (E) COUNTRY: Denmark  
21 (F) ZIP: DK-2720  
22  
23 (v) COMPUTER READABLE FORM:  
24 (A) MEDIUM TYPE: Floppy disk  
25 (B) COMPUTER: IBM PC compatible  
26 (C) OPERATING SYSTEM: PC-DOS/MS-DOS  
27 (D) SOFTWARE: PatentIn Release #1.0, Version #1.30 (EPO)  
28  
29 (vi) CURRENT APPLICATION DATA:  
30 (A) APPLICATION NUMBER: 09/060,294  
31 (B) FILING DATE: 15-APR-1998  
32  
33 (vii) PRIOR APPLICATION DATA:  
34 (A) APPLICATION NUMBER: 60/044,187  
35 (B) FILING DATE: 24-APR-1997  
36  
37 (viii) ATTORNEY/AGENT INFORMATION:  
38 (A) NAME: Price, D. Douglas  
39 (B) REGISTRATION NUMBER: 24,514  
40 (C) REFERENCE/DOCKET NUMBER: P60953US1  
41  
42 (ix) TELECOMMUNICATION INFORMATION:  
43 (A) TELEPHONE: (202) 638-6666  
44 (B) TELEFAX: (202) 393-5350  
45  
46 (2) INFORMATION FOR SEQ ID NO: 1:

# RAW SEQUENCE LISTING PATENT APPLICATION US/09/060,294

 DATE: 08/06/1999  
 TIME: 11:54:14

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47
48      (i) SEQUENCE CHARACTERISTICS:
49          (A) LENGTH: 477 base pairs
50          (B) TYPE: nucleic acid
51          (C) STRANDEDNESS: double
52          (D) TOPOLOGY: linear
53
54      (ii) MOLECULE TYPE: cDNA
55
56      (iii) HYPOTHETICAL: NO
57
58      (iv) ANTI-SENSE: NO
59
60      (vi) ORIGINAL SOURCE:
61          (A) ORGANISM: Homo sapiens
62
63      (ix) FEATURE:
64          (A) NAME/KEY: CDS
65          (B) LOCATION:1..477
66          (C) IDENTIFICATION METHOD: experimental
67          (D) OTHER INFORMATION:/codon_start= 1
68              /function= "Antigen"
69              /product= "TNF-alpha analog"
70              /evidence= EXPERIMENTAL
71              /gene= "tnfP2-1"
72              /standard_name= "TNF2-1"
73
74      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
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76      ATG GTC AGA TCA TCT TCT CGA ACC CCG AGT CAG TAC ATT AAA GCC AAT      48
77      Met Val Arg Ser Ser Ser Arg Thr Pro Ser Gln Tyr Ile Lys Ala Asn
78          1              5              10              15
79
80      TCT AAA TTC ATC GGT ATA ACT GAG CTG CAG CTC CAG TGG CTG AAC CGC      96
81      Ser Lys Phe Ile Gly Ile Thr Glu Leu Gln Leu Gln Trp Leu Asn Arg
82              20              25              30
83
84      CGG GCC AAT GCC CTC CTG GCC AAT GGC GTG GAG CTG AGA GAT AAC CAG      144
85      Arg Ala Asn Ala Leu Leu Ala Asn Gly Val Glu Leu Arg Asp Asn Gln
86              35              40              45
87
88      CTG GTG GTG CCA TCA GAG GGC CTG TAC CTC ATC TAC TCC CAG GTC CTC      192
89      Leu Val Val Pro Ser Glu Gly Leu Tyr Leu Ile Tyr Ser Gln Val Leu
90              50              55              60
91
92      TTC AAG GGC CAA GGC TGC CCC TCC ACC CAT GTG CTC CTC ACC CAC ACC      240
93      Phe Lys Gly Gln Gly Cys Pro Ser Thr His Val Leu Leu Thr His Thr
94              65              70              75              80
95
96      ATC AGC CGC ATC GCC GTC TCC TAC CAG ACC AAG GTC AAC CTC CTC TCT      288
97      Ile Ser Arg Ile Ala Val Ser Tyr Gln Thr Lys Val Asn Leu Leu Ser
98              85              90              95
99
  
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# RAW SEQUENCE LISTING PATENT APPLICATION US/09/060,294

DATE: 08/06/1999  
TIME: 11:54:15

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100  GCC ATC AAG AGC CCC TGC CAG AGG GAG ACC CCA GAG GGG GCT GAG GCC      336
101  Ala Ile Lys Ser Pro Cys Gln Arg Glu Thr Pro Glu Gly Ala Glu Ala
102              100              105              110
103
104  AAG CCC TGG TAT GAG CCC ATC TAT CTG GGA GGG GTC TTC CAG CTG GAG      384
105  Lys Pro Trp Tyr Glu Pro Ile Tyr Leu Gly Gly Val Phe Gln Leu Glu
106              115              120              125
107
108  AAG GGT GAC CGA CTC AGC GCT GAG ATC AAT CGG CCC GAC TAT CTC GAC      432
109  Lys Gly Asp Arg Leu Ser Ala Glu Ile Asn Arg Pro Asp Tyr Leu Asp
110              130              135              140
111
112  TTT GCC GAG TCT GGG CAG GTC TAC TTT GGG ATC ATT GCC CTC TAG      477
113  Phe Ala Glu Ser Gly Gln Val Tyr Phe Gly Ile Ile Ala Leu *
114  145              150              155
115
116
117  (2) INFORMATION FOR SEQ ID NO: 2:
118
119      (i) SEQUENCE CHARACTERISTICS:
120          (A) LENGTH: 158 amino acids
121          (B) TYPE: amino acid
122          (D) TOPOLOGY: linear
123
124      (ii) MOLECULE TYPE: protein
125
126      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
127
128  Met Val Arg Ser Ser Ser Arg Thr Pro Ser Gln Tyr Ile Lys Ala Asn
129      1              5              10              15
130
131  Ser Lys Phe Ile Gly Ile Thr Glu Leu Gln Leu Gln Trp Leu Asn Arg
132              20              25              30
133
134  Arg Ala Asn Ala Leu Leu Ala Asn Gly Val Glu Leu Arg Asp Asn Gln
135              35              40              45
136
137  Leu Val Val Pro Ser Glu Gly Leu Tyr Leu Ile Tyr Ser Gln Val Leu
138      50              55              60
139
140  Phe Lys Gly Gln Gly Cys Pro Ser Thr His Val Leu Leu Thr His Thr
141      65              70              75              80
142
143  Ile Ser Arg Ile Ala Val Ser Tyr Gln Thr Lys Val Asn Leu Leu Ser
144              85              90              95
145
146  Ala Ile Lys Ser Pro Cys Gln Arg Glu Thr Pro Glu Gly Ala Glu Ala
147              100              105              110
148
149  Lys Pro Trp Tyr Glu Pro Ile Tyr Leu Gly Gly Val Phe Gln Leu Glu
150              115              120              125
151
152  Lys Gly Asp Arg Leu Ser Ala Glu Ile Asn Arg Pro Asp Tyr Leu Asp

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# RAW SEQUENCE LISTING PATENT APPLICATION *US/09/060,294*

 DATE: 08/06/1999  
 TIME: 11:54:15

INPUT SET: S32807.raw

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153          130          135          140
154
155 Phe Ala Glu Ser Gly Gln Val Tyr Phe Gly Ile Ile Ala Leu
156 145          150          155
157
158
159 (2) INFORMATION FOR SEQ ID NO: 3:
160
161 (i) SEQUENCE CHARACTERISTICS:
162 (A) LENGTH: 477 base pairs
163 (B) TYPE: nucleic acid
164 (C) STRANDEDNESS: double
165 (D) TOPOLOGY: linear
166
167 (ii) MOLECULE TYPE: DNA (genomic)
168
169 (iii) HYPOTHETICAL: NO
170
171 (iv) ANTI-SENSE: NO
172
173 (vi) ORIGINAL SOURCE:
174 (A) ORGANISM: Homo sapiens
175
176 (ix) FEATURE:
177 (A) NAME/KEY: CDS
178 (B) LOCATION:1..477
179 (D) OTHER INFORMATION:/codon_start= 1
180 /function= "Antigen"
181 /product= "TNF-alpha analog"
182 /gene= "tnfp2-3"
183 /standard_name= "TNF2-3"
184
185 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
186
187 ATG GTC AGA TCA TCT TCT CGA ACC CCG AGT GAC AAG CCT GTA GCC CAT      48
188 Met Val Arg Ser Ser Ser Arg Thr Pro Ser Asp Lys Pro Val Ala His
189 160          165          170          175
190
191 GTT GTA GCA AAC CCT CAA GCT GAG GGG CAG CTC CAG TGG CTG AAC CGC      96
192 Val Val Ala Asn Pro Gln Ala Glu Gly Gln Leu Gln Trp Leu Asn Arg
193          180          185          190
194
195 CGG GCC AAT GCC CTC CTG GCC AAT GGC GTG GAG CTG AGA GAT AAC CAG      144
196 Arg Ala Asn Ala Leu Leu Ala Asn Gly Val Glu Leu Arg Asp Asn Gln
197          195          200          205
198
199 CTG GTG GTG CCA TCA GAG GGC CTG TAC CTC ATC TAC TCC CAG GTC CTC      192
200 Leu Val Val Pro Ser Glu Gly Leu Tyr Leu Ile Tyr Ser Gln Val Leu
201          210          215          220
202
203 TTC CAG TAC ATA AAG GCC AAC TCC AAG TTT ATC GGC ATC ACC GAG CTC      240
204 Phe Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu Leu
205          225          230          235
    
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# RAW SEQUENCE LISTING PATENT APPLICATION US/09/060,294

DATE: 08/06/1999  
TIME: 11:54:15

INPUT SET: S32807.raw

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206
207 ATC AGC CGC ATC GCC GTC TCC TAC CAG ACC AAG GTC AAC CTC CTC TCT 288
208 Ile Ser Arg Ile Ala Val Ser Tyr Gln Thr Lys Val Asn Leu Leu Ser
209 240 245 250 255
210
211 GCC ATC AAG AGC CCC TGC CAG AGG GAG ACC CCA GAG GGG GCT GAG GCC 336
212 Ala Ile Lys Ser Pro Cys Gln Arg Glu Thr Pro Glu Gly Ala Glu Ala
213 260 265 270
214
215 AAG CCC TGG TAT GAG CCC ATC TAT CTG GGA GGG GTC TTC CAG CTG GAG 384
216 Lys Pro Trp Tyr Glu Pro Ile Tyr Leu Gly Gly Val Phe Gln Leu Glu
217 275 280 285
218
219 AAG GGT GAC CGA CTC AGC GCT GAG ATC AAT CGG CCC GAC TAT CTC GAC 432
220 Lys Gly Asp Arg Leu Ser Ala Glu Ile Asn Arg Pro Asp Tyr Leu Asp
221 290 295 300
222
223 TTT GCC GAG TCT GGG CAG GTC TAC TTT GGG ATC ATT GCC CTC TAG 477
224 Phe Ala Glu Ser Gly Gln Val Tyr Phe Gly Ile Ile Ala Leu *
225 305 310 315
226
227
228 (2) INFORMATION FOR SEQ ID NO: 4:
229
230 (i) SEQUENCE CHARACTERISTICS:
231 (A) LENGTH: 158 amino acids
232 (B) TYPE: amino acid
233 (D) TOPOLOGY: linear
234
235 (ii) MOLECULE TYPE: protein
236
237 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
238
239 Met Val Arg Ser Ser Ser Arg Thr Pro Ser Asp Lys Pro Val Ala His
240 1 5 10 15
241
242 Val Val Ala Asn Pro Gln Ala Glu Gly Gln Leu Gln Trp Leu Asn Arg
243 20 25 30
244
245 Arg Ala Asn Ala Leu Leu Ala Asn Gly Val Glu Leu Arg Asp Asn Gln
246 35 40 45
247
248 Leu Val Val Pro Ser Glu Gly Leu Tyr Leu Ile Tyr Ser Gln Val Leu
249 50 55 60
250
251 Phe Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu Leu
252 65 70 75 80
253
254 Ile Ser Arg Ile Ala Val Ser Tyr Gln Thr Lys Val Asn Leu Leu Ser
255 85 90 95
256
257 Ala Ile Lys Ser Pro Cys Gln Arg Glu Thr Pro Glu Gly Ala Glu Ala
258 100 105 110

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PAGE: 1

**SEQUENCE VERIFICATION REPORT**  
**PATENT APPLICATION US/09/060,294**

DATE: 08/06/1999  
TIME: 11:54:16

***INPUT SET: S32807.raw***

Line	Error	Original Text
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RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/060,294DATE: 08/05/1999  
TIME: 15:22:31

INPUT SET: S32807.raw

This Raw Listing contains the General  
Information Section and those Sequences  
containing ERRORS.

## SEQUENCE LISTING

1  
2  
3 (1) General Information:  
4  
5 (i) APPLICANT: Martin Roland Jensen  
6 Soren Mouritsen  
7 Henrik Elsner  
8 Iben Dalum  
9  
10 (ii) TITLE OF INVENTION: Modified human TNF-alpha molecules, DNA  
11 encoding them, and vaccines containing said modified  
12 TNF-alpha or DNA  
13  
14 (iii) NUMBER OF SEQUENCES: 42  
15  
16 (iv) CORRESPONDENCE ADDRESS:  
17 (A) ADDRESSEE: Farmaceutisk Laboratorium Ferring A/S  
18 (B) STREET: Indertoften 10  
19 (C) CITY: Vanløse  
20 (E) COUNTRY: Denmark  
21 (F) ~~POSTAL CODE~~ (ZIP): DK-2720  
22  
23 (v) COMPUTER READABLE FORM:  
24 (A) MEDIUM TYPE: Floppy disk  
25 (B) COMPUTER: IBM PC compatible  
26 (C) OPERATING SYSTEM: PC-DOS/MS-DOS  
27 (D) SOFTWARE: PatentIn Release #1.0, Version #1.30 (EPO)  
28  
29 (vi) CURRENT APPLICATION DATA:  
30 (A) APPLICATION NUMBER: 09/060,294  
31 (B) FILING DATE: 15-APR-1998  
32  
33 (vii) PRIOR APPLICATION DATA:  
34 (A) APPLICATION NUMBER: 60/044,187  
35 (B) FILING DATE: 24-APR-1997  
36  
37 (viii) ATTORNEY/AGENT INFORMATION:  
38 (A) NAME: Price, D. Douglas  
39 (B) REGISTRATION NUMBER: 24,514  
40 (C) REFERENCE/DOCKET NUMBER: P60953US1  
41  
42 (ix) TELECOMMUNICATION INFORMATION:  
43 (A) TELEPHONE: (202) 638-6666  
44 (B) TELEFAX: (202) 393-5350  
45

Does Not Comply  
Corrected Diskette Needed

--&gt;

INPUT SET: S32807.raw

## ERRORED SEQUENCES FOLLOW:

228 (2) INFORMATION FOR SEQ ID NO: 4:  
229  
230 (i) SEQUENCE CHARACTERISTICS:  
231 (A) LENGTH: 158 amino acids  
232 (B) TYPE: amino acid  
233 (D) TOPOLOGY: linear  
234  
235 (ii) MOLECULE TYPE: protein  
236  
--> 237 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:  
238  
239 Met Val Arg Ser Ser Ser Arg Thr Pro Ser Asp Lys Pro Val Ala His  
240 1 5 10 15  
241  
242 Val Val Ala Asn Pro Gln Ala Glu Gly Gln Leu Gln Trp Leu Asn Arg  
243 20 25 30  
244  
245 Arg Ala Asn Ala Leu Leu Ala Asn Gly Val Glu Leu Arg Asp Asn Gln  
246 35 40 45  
247  
248 Leu Val Val Pro Ser Glu Gly Leu Tyr Leu Ile Tyr Ser Gln Val Leu  
249 50 55 60  
250  
251 Phe Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu Leu  
252 65 70 75 80  
253  
254 Ile Ser Arg Ile Ala Val Ser Tyr Gln Thr Lys Val Asn Leu Leu Ser  
255 85 90 95  
256  
257 Ala Ile Lys Ser Pro Cys Gln Arg Glu Thr Pro Glu Gly Ala Glu Ala  
258 100 105 110  
259  
260 Lys Pro Trp Tyr Glu Pro Ile Tyr Leu Gly Gly Val Phe Gln Leu Glu  
261 115 120 125  
262  
263 Lys Gly Asp Arg Leu Ser Ala Glu Ile Asn Arg Pro Asp Tyr Leu Asp  
264 130 135 140  
265  
266 Phe Ala Glu Ser Gly Gln Val Tyr Phe Gly Ile Ile Ala Leu  
267 145 150 155  
268  
269

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1514 (2) INFORMATION FOR SEQ ID NO: 31:  
1515  
1516 (i) SEQUENCE CHARACTERISTICS:  
--> 1517 (A) LENGTH: 99 ~~amino acids~~



RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/060,294DATE: 08/05/1999  
TIME: 15:22:32

INPUT SET: S32807.raw

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1518          (B) TYPE: nucleic acid
1519          (C) STRANDEDNESS: single
1520          (D) TOPOLOGY: linear
1521
1522      (ii) MOLECULE TYPE: DNA (genomic)
1523
1524      (iii) HYPOTHETICAL: NO
1525
1526      (iv) ANTI-SENSE: NO
1527
1528      (vi) ORIGINAL SOURCE:
1529          (A) ORGANISM: Homo sapiens
1530
1531      (ix) FEATURE:
1532          (A) NAME/KEY: insertion_seq
1533          (B) LOCATION:12..74
1534          (C) IDENTIFICATION METHOD: experimental
1535          (D) OTHER INFORMATION:/function= "Primer for PCR cloning
1536              of DNA encoding TNF-alpha analog"
1537              /evidence= EXPERIMENTAL
1538              /organism= "Homo sapiens"
1539              /standard_name= "Primer "mut30-3""
1540              /label= mut30-3
1541              /note= "Primer "mut30-3" is a synthetically synthesised
1542              100-mer oligonucleotide comprising DNA encoding human T
1543              cell epitope P30 between stretches of DNA homologous to
1544              stretches of the human TNF-alpha gene"
1545
1546      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 31:
1547
1548      CCCAGGTCCT CTTCAACAAC TTTACCGTCT CCTTCTGGCT TCGGGTACCC
--> 1549      AAGGTCAGCG      60
1550
1551      CTAGCCACCT CGAGGTCTCC TACCAGACCA AGGTCAACCT      100
1552
1553
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**SEQUENCE VERIFICATION REPORT**  
**PATENT APPLICATION US/09/060,294**DATE: 08/05/1999  
TIME: 15:22:32**INPUT SET: S32807.raw**

Line	Error	Original Text
21	Unknown or Misplaced Identifier	(F) POSTAL CODE (ZIP): DK-2720
159	Stop Codon at end of sequence removed - no error	(2) INFORMATION FOR SEQ ID NO: 3:
237	Wrong or Missing Sequence Topology	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
270	Stop Codon at end of sequence removed - no error	(2) INFORMATION FOR SEQ ID NO: 5:
380	Stop Codon at end of sequence removed - no error	(2) INFORMATION FOR SEQ ID NO: 7:
490	Stop Codon at end of sequence removed - no error	(2) INFORMATION FOR SEQ ID NO: 9:
601	Stop Codon at end of sequence removed - no error	(2) INFORMATION FOR SEQ ID NO: 11:
711	Stop Codon at end of sequence removed - no error	(2) INFORMATION FOR SEQ ID NO: 13:
822	Stop Codon at end of sequence removed - no error	(2) INFORMATION FOR SEQ ID NO: 15:
933	Stop Codon at end of sequence removed - no error	(2) INFORMATION FOR SEQ ID NO: 17:
1043	Stop Codon at end of sequence removed - no error	(2) INFORMATION FOR SEQ ID NO: 19:
1153	Stop Codon at end of sequence removed - no error	(2) INFORMATION FOR SEQ ID NO: 21:
1517	Entered (100) and Calc. Seq. Length (50) differ	(A) LENGTH: 100 base pairs
1549	# of Sequences for line conflicts w/ running total	AAGGTCAGCG 60